Information Exchange System (IES) DSP Portal

Infrastructure IPT

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Executive Summary

Most of the acquisition workforce is aware of two Defense Standardization Program (DSP)–supported Web sites. The DSP Home Page provides policy-related points of contact, documents, and miscellany; the DoD Single Stock Point (DoDSSP) Home Page provides traditional documents of the DSP, specifications, standards, and handbooks, including related points of contact and other management information.

The Infrastructure IPT recommends that the DSP provide "one-stop shopping" to its thousands of customers within DoD and industry. Rather than maintaining two distinct, separate DSP Web sites, the IPT recommends that a single Web site providing the features of both current sites, would become a DSP Web portal that serves both government and industry.

A DSP Web portal could become a complete e-environment for document development, coordination, approval, and maintenance. The portal could serve the extensive needs of the large acquisition community and help put that community in faster contact with the documents it seeks.

The Infrastructure IPT thinks a well-designed, well-maintained DSP Web portal can connect relevant parties, harmonize and integrate disparate processes, and provide massive amounts of data and technical documents to the acquisition community and others.

RECOMMENDATION #1

The Defense Standardization Program Office (DSPO) should develop, implement, and promulgate in phases a universal Information Exchange System (IES) Portal that supports users throughout the United States and around the world. The IES Portal should be available to all military, civilian, and contract personnel associated with acquisition and sustainment. It should provide users access to DSP and DoD databases and information tools, plus databases licensed and maintained by other information brokers to offer a full range of standardization resources. The DSP portal should be designed to accommodate several layers of permissions to grant access, as needed and authorized, to differing groups of users and customers.

RECOMMENDATION #2

DSPO should create an electronic environment that serves the acquisition community's needs for access to pertinent, up-to-date information and resources. This one-stop portal must remain dynamic and fresh to become the information source of choice, especially for those involved in making acquisition and sustainment standardization decisions.

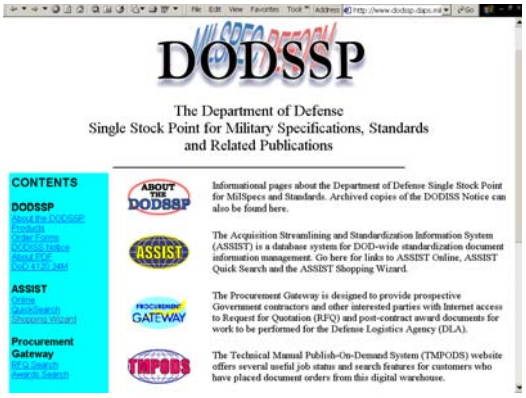
Introduction

BACKGROUND

The Defense Standardization Program (DSP), the infrastructure process covering every product and system owned and operated by DoD, has as broad an audience as exists within DoD. The baseline for requirements and verification techniques of all products and systems intended to be introduced into the DoD inventory is documented in military, non-Government, and international specifications, standards, and handbooks managed by the DSP. The need for a robust DoD information/communication capability has been apparent for many years. To satisfy this need, DoD has successfully pursued an electronic ("e-") vision for more than a decade. In fact, the DSP currently employs two very active web sites: one for policies (Figure 1), the other for documents (Figure 2).

Figure 1. DSPO Web Site

Figure 2. DoDSSP Web Site



The DSP Strategic Plan and Strategic Plan Implementation continue DoD's course to realizing this vision.

SPECIFIC IPT TASKING

From the DSP Strategic Plan Implementation:

Objective V.C DSP uses a flexible, online information exchange system as the single point of entry for standardization efforts		
Action V.C.1	**Key Steps**	**Lead**
Establish a useful, online information exchange system as the single point of entry for standardization efforts	1. Develop a plan for an online information exchange system that enables the standardization processes, facilitates participation, and provides universal access to standardization information 2. Develop the information exchange system 3. Populate the information exchange system 4. Update and improve the system as needed	Air Force

DEFINITION OF NEED OR OPPORTUNITY

DSP Integrated Product Teams (IPTs) agree that DSP personnel and customers need a single information entry point. This is envisioned as a Web-based entry point to all the information the acquisition community needs. It would include access to information and knowledge such as policies, procedures, document databases, and management reports. In addition, it would provide links to information, analysis, and collaboration tools such as the Weapons Systems Impact Tool, the Document Development & Coordination Tool, the ISA Weapons System Work Breakdown Structure Tool, and the Logistics Readiness Knowledge-Management Tool being proposed by the Defense Logistics Agency (DLA) and Navy IPTs. A complete list of required data sources and functionality is included in this report.

RELATIONSHIP WITH OTHER IPTS

There are clear connections between the recommendations in all DSP Strategic Planning IPTs. Most obvious among these connections is the need to develop and coordinate documents electronically, a primary task of the DLA-chaired IPT. In addition, each IPT has proposed other new tools that need to be considered in the future development and deployment of the DSP Information Exchange System Portal. Clearly, an efficient and secure communication system enables the DSP to better integrate and harmonize with other activities that are accomplishing, or at least considering, standardization as a means to better products and services for warfighters.

Recommendations

RECOMMENDATION #1

The Defense Standardization Program Office should develop, implement, and promulgate in phases a universal Information Exchange System (IES) Portal that supports users throughout the United States and around the world. The IES Portal will be available to military, civilian, and contract personnel. It will provide users access to DSP and DoD databases and information tools, plus databases licensed and maintained by other information brokers. The portal will offer a full range of standardization resources. The ISE should be developed to allow levels of access for varying users, from general DSP customers to fully authorized and responsible document Preparing Activities. The DSP Home Page could serve as the foundation for portal development and maintenance.

Rationale

An easily accessible, centrally maintained, single point of access to information of value to the acquisition work force would

- provide shared-knowledge products that promote standardization and government and industry partnering to maximize efficiency and productivity;
- offer information and resources that can be tailored to users' unique business needs;
- enhance management processes by providing quick, easy access to current information and analysis tools;
- attract new users beyond the Standardization community by providing "one-stop shopping" to the Acquisition and Standardization communities alike; and
- reduce life-cycle cost of procured items by decreasing the redundancy of efforts, identifying pertinent information, and providing the ability to access and maintain disparate data and functionality resources.

RECOMMENDATION #2

Create an electronic environment that serves the acquisition community's needs for access to pertinent, up-to-date information and resources. This one-stop portal must remain dynamic and fresh to become the information source of choice, especially for those involved in making standardization decisions.

It is necessary to understand that such a capability necessitates a long-term commitment. Just as the current program has the support of the technical engineer and administration of the DSP program managers in developing and maintaining the technical baseline, so too must the future Information Exchange System retain this fundamental foundation.

The Services make this commitment to warfighters: All future programs will have the advantage of knowing the technical baseline and risks at the start of each new program or weapons system upgrade.

Formerly paper-based processes routinely are becoming electronic. DSP work now entails three classes of personnel support:

- *Technical and engineering.* Engineers and scientists continue to be the heart blood of technical requirements and verification techniques (test, demonstration, and analysis). They document the proven technical solutions that are deployed as requirements within the DSP specifications, standards, and handbooks. Likewise, they provide the adverse lessons learned that must be avoided in future programs. E-business has enabled technical specialists to cooperatively develop, coordinate, and deploy information and documents online.

- *DSP program management.* Virtually all document editing, coordination, and DSP administration now is accomplished electronically. DSP managers rely heavily on e-business in administering the DSP program policies and procedures to maintain standardization quality conformance and procedural adherence.

- *Computer and electronic support.* Since the outset and into the future of achieving a progressive electronic vision, computer specialists are critical to developing, improving, and maintaining the electronic solutions to serve DSP needs. They are seldom “dedicated” to Standardization offices at the local level but, as the power of e-business increases, they will become more critical to the success of a centralized deployment of acquisition and standardization tools.

Effective, visionary Standardization leaders need to make the best use of required personnel to ensure that future weapons systems are well supported.

Concept Overview

IES will be a one-stop portal into the world of standardization to

- allow customers to find and access needed DSP, non-government standards (NGSs), and international standard agreements (ISAs) specifications, standards, handbooks, and other types of documents;
- allow users to develop specific queries against internal and external databases and modify the queries based on search results;
- provide alerts to users of new information found as a result of the automatic execution of queries against internal and external sources;
- capture information about users' areas of interest to recommend to the user population communities with similar interests;
- provide access to commercial databases under license (see Table of Data Sources in Table II);
- provide access to selected databases maintained by DSP and DoD, such as e-mail and other message systems, document files, and so forth;
- allow for scaling (growth in number and type) of resources and users;
- provide information on system operations such as server and network performance;
- provide the ability to securely manage restricted, controlled, and limited information and documents online;
- permit access to more secure means to manage classified standardization documents and provide the ability to use that means when needed (via Secret-Level Internet Protocol Router Network [SIPRNET]);
- provide information on users' patterns of interaction with the system, such as
  - satisfaction with system performance and content,
  - level of collaboration among the users of various types (e.g., Domain users),
  - information preferences and sources of information accessed by organizational users and types of users, and

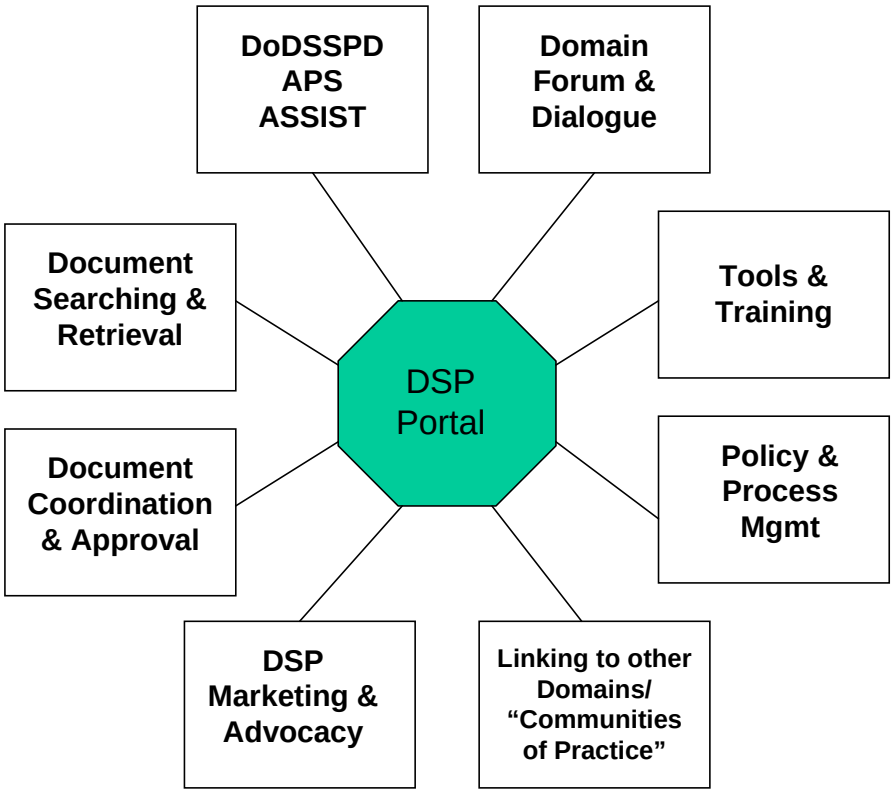
- ™ statistics on use of databases, such as the number of results found for individual queries;

- υ provide a structured process to identify and implement users' suggestions for new data sources and tools (users submit suggestions via e-mail to portal administrators and others),

- υ provide managers access to a knowledge management forum and collaboration tools, lessons learned, and automatic e-mail alerts to subject matter experts after system particulars are posted, and

- υ provide managers a materiel interoperability requirements tracking tool.

Figure 3. DSP Portal Vision and Functionality (Notional)

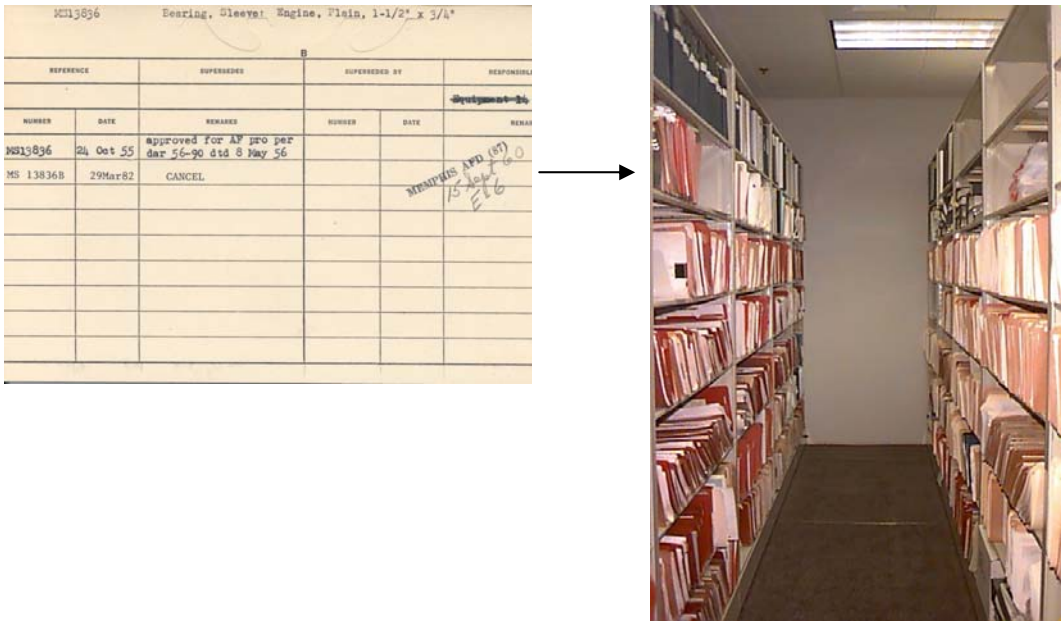


WHY IS THE INFORMATION EXCHANGE SYSTEM NEEDED?

- Because the DSP is a distributed program, procedures used at different locations have varied widely. This is not remarkable considering the span of years for the program and the varying types of people who have worked on the program. Unfortunately, the result can be chaos. Local offices develop their own efficiencies or constraints, which cause disparate processes when dealing with other Standardization Management Activities.

- Information is lost (never captured, paper-based, locked in file cabinets), a testament to a paper-base legacy (See Figure 4).

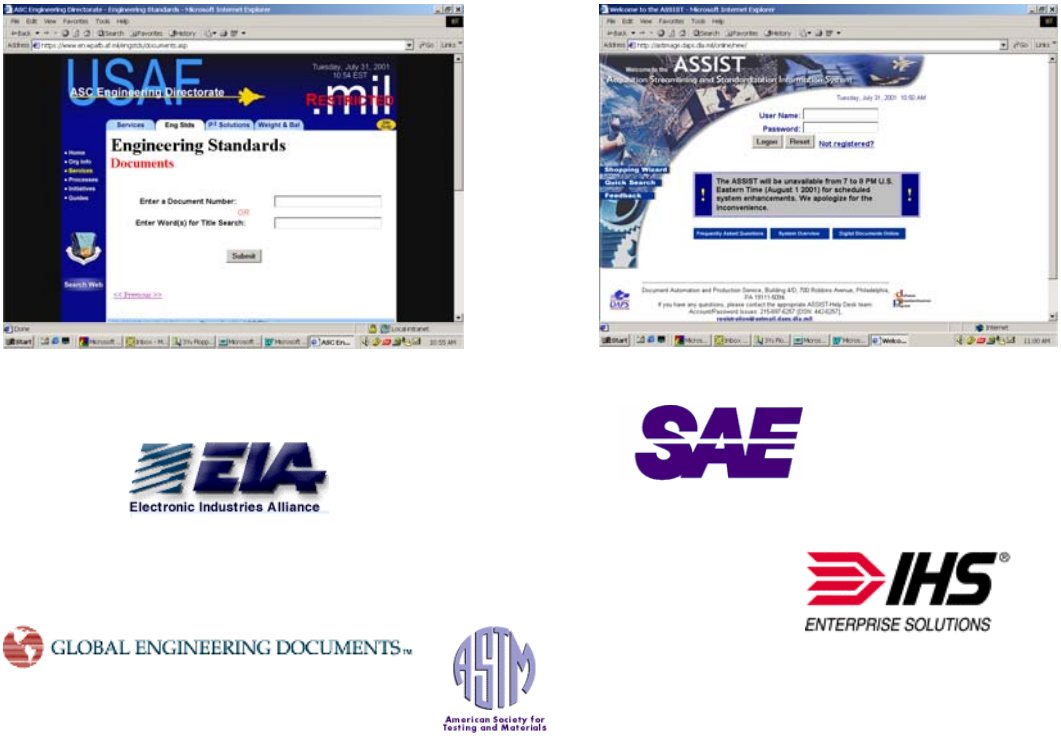
Figure 4. A Paper-Based Legacy



- Information is difficult to locate or it is unorganized. Currently there is no single focal point for *all* the information relevant to the DSP program. Neither DSP employees nor customers have a complete picture of where information might exist or how much information is redundant or may be get lost. There is no appreciation for how much effort is expended to maintain, preserve, and deploy critical standardization documents and information. There is no way of knowing how many customers are searching

to locate critical information. Many organizations are migrating to Web-based processes and interfacing with their customers. (See Figure 5.)

Figure 5. Information Resides in Multiple Locations, Inside and Outside Government



- Collaboration is difficult and time consuming (don't know who to contact, can't transfer data in consistent and usable format).
- Customers are paying for redundant services (e.g., IHS, ILI).
- Informational synergy is often the key to reduced cycle times. Providing DoD and industry personnel with a common portal to gain similar information enhances the ability of customers to do business from sector to sector, domain to domain, and enterprise to enterprise.

How Will the Information Exchange System Work?

- DoD personnel will create and manage the electronic environment to ensure connectivity within and outside the Government. It will become the single workspace for Standardization commerce between DoD organizations and industry.

- Personnel within DoD and outside of DoD can collaborate on document development and maintenance, ensuring that requirements are based on consensus and well understood.

WHAT WILL THE INFORMATION EXCHANGE SYSTEM DO?

- IES will allow a full range of capabilities tailored to specific users' interests and needs including document indexing, storage and retrieval, document development templates and tools, document compare-and-contrasts features, databasing and listing of like requirements and comments, automated feedback to submitters of comments, notification of drafts available for review and comment.

WHO WILL BE INVOLVED IN THE INFORMATION EXCHANGE SYSTEM?

- Electronic environment customers typically fall into three categories: internal DSP workers, DoD customers, and industry customers (foreign or domestic). A goal of the DSP portal is to get the whole range of customers working in a common operating environment that serves the full range of their needs.

WHAT ARE THE BENEFITS?

The Information Exchange System will

- reduce loss of intellectual capital and standardization knowledge,
- provide a consistent and centralizing knowledge-management environment,
- reduce the cost of performing DSP services,
- increase productivity,
- increase employee satisfaction,
- improve decisionmaking,
- increases internal and external customer satisfaction, and
- create a single environment for the whole customer base, thus building synergy between user communities, providing a common, efficient entry point for acquisition and sustainment data, and reducing cycle times for

development and coordination of joint standardization documents. This single environment also will provide industry with a single face to the DoD acquisition and sustainment communities.

WHO ARE THE CUSTOMERS AND WHAT ARE THE CUSTOMERS' NEEDS?

As this common data environment is deployed and begins to mature, it will become easier to identify Key Customers and their needs. While each customer is a part of the process, the customers are widely diverse and often have varying needs at varying stages of the acquisition process. Customers will include

- DoD Standardization Offices responsible for development and maintenance of military documents and the associated management information;
- current DoD and industry FSC/FSG/Area subscribers who need relevant documents and access to national stock numbers (NSNs) that fall within these FSCs/FSGs and the weapon systems for which these items are needed;
- future Domain Board/Forum members and their interested parties who will seek opportunities to exploit standardization solutions that cross Domain lines and provide cross-platform interoperability and cost savings;
- DoD equipment contractors (Boeing, Lockheed, and others), commercial parts suppliers, repair depots, international community, and Non-Government Standards Bodies (NGSBs) who will be looking to standardize on proposed solutions to DoD needs (which should enhance commonality and reduce costs).

IES SOLUTIONS FOR CUSTOMERS' NEEDS

The Information Exchange System can provide solutions for customers' needs, including the following benefits:

- Provides access to documents, data, and subject matter experts,
- Provides query capabilities for multiple databases and additional acquisition-related tools, such as Risk Management tools,
- Provides sort capability for multiple databases,
- Collects general and specific lessons learned data,

- Collects Standardization policies and procedures data and related acquisition policies/procedures,
- Collects Standardization point of contact (POC) data,
- Answers frequently asked questions (FAQs)
- Links to implementing or referenced documents and provides full ASSIST search and retrieval capabilities, and
- Identifies customers' needs by tracking usage patterns. (Over time, concerns about security and disclosure will determine if this feature is acceptable).

VALUE OF IES SOLUTION TO CUSTOMER COMMUNITY AND DOD

Cost savings

DoD remains a vertical "stovepiped" organization with hundreds of specialized information databases serving specific and narrowly defined customers. Cost savings can be realized by customers by building synergy and better fidelity into data searches, but also by the maintenance side where enhanced data searching allows potentially redundant systems to be removed.

Time savings

The single greatest means of saving time in DoD and industry is when employees have desktop access to relevant information. When employees do not need to leave their work areas to retrieve information, time and cost savings result.

Better decisions

Inherent decisionmaking risks are reduced by data that has been coordinated, mitigated, and corporately endorsed. The fidelity and currency of such data increases confidence in decisions.

Enhanced reputation

DoD expects sound foundations for technical development of products and services. Military and commercial sectors use military specifications and standards to develop and sustain weapons systems. Up to 25 percent of domestic commercial airframes have military specifications woven into their designs. Thus, DoD's demonstration of an effective, disciplined standardization process helps build confidence across both the military and commercial marketplaces.

Implementation Considerations

POLICY ACTIONS

Policies and procedures need to be evident as new and enhanced capabilities are developed. Policies still remain mostly paper-based. Discrete steps, based on the management of paper products, were required to ensure consistency, quality, and consensus. Creation of a new electronic environment where various new actions may take place will change some of these procedures because the technologies allow or prevent certain actions from taking place or needing to take place.

Process reengineering should be concurrent with technology reengineering. It is not merely acceptable to deploy a new e-capability, then rework the old policies. In most cases, process reengineering and concurrent policy evolution are keys to fully exploiting new technologies. A solid requirements' analysis, accomplished jointly between the technology developer and the DSP will ensure better chances of optimum success.

Subsequent to development and deployment of new capabilities, policies and procedures will need another major review. Subsequent use and user feedback will lead to new possibilities and corrections in technology and policies and procedures.

FUNDING OR RESOURCES

As with all new technology implemented to better serve customers, deployment of a DSP web portal will be governed by funding. In addition to early development costs, a maintenance strategy typically is required, as well as a training component and the need for assessments that lead to future upgrades. All require a consistent funding strategy.

There is strong movement for mission-driven funding processes. As the Portal recognizes the need for collaboration space for Domain and Standardization Area leads, it lends itself favorably to building advocacy and awareness for funding needs that support the specific missions served.

Just as important as the technology costs, is a manpower component to keep such a tool operational. Interruptions in service erode customer confidence in the whole system, including the value of the information.

CUSTOMERS AND CUSTOMERS' NEEDS

The purpose of the Information Exchange System Portal is to serve internal and external customers. As with any service, it is imperative to understand customers' needs and preferences. This will require defining the universe of users and identifying user communities targeted for the initial phase of implementation. An extensive customer needs analysis will be required as a part of the development of this capability. The study will need to examine key functional areas listed in Table I to ensure that links to the appropriate tools and websites meet customers' needs. This is shown notionally in Table II. Table III shows a notional Customer Survey/Analysis.

Table I. DSP Web Portal Functionalities (Notional)

Portal Functional Capabilities
Document Management and Administration
Searching for DoD and NGS documents
Searching for POCs
Creating documents from templates (where available)
Coordinating documents
Commenting on documents
Adjudicating comments
Approving documents
Distributing documents automatically and manually
Collecting document administrative data
Providing automated document update notification
Providing automated document revision histories
Providing document configuration control
Providing document records management
Providing automated document archiving
Domain Web Space and Forums
Aviation, Space, C4I, others
Lead Standardization Activity (LSA) management and collaboration
Collaboration Capabilities
International Standardization collaboration space
Secure environment for draft documents, concept papers
Customer feedback capabilities (government and industry)
Links to NGSB, Societies, other Communities of Practice
AIA
ASTM
SAE

Portal Functional Capabilities
Others
Tools and Training
Weapon System Impact Tool
Interoperability Tool
International Standards
Access to Training Sources
Risk Management Tools
Policy and Process Management
DSP Library, policies, procedures, DSP Journal
Funding process management
Standardization project management (submittals, approvals, metrics and tracking)
DSP Advocacy and Marketing
Promotional materials (policy letters, industry positions)
Awards management and announcements

Table II. Sampling of Data Sources on DSP Web Portal (Notional)

Data Source	Web Address
DSP-Maintained Data	
Defense Standardization Program (DSP)	http://dsp.dla.mil/
Department of Defense Single Stock Point (DoDSSP)	http://dodssp.daps.dla.mil/
ASSIST On-Line	http://astimage.daps.dla.mil/
Technical Committee Participation Data-base	http://dsp.dla.mil/sd11
ISA Participant Database	http://dsp.dla.mil/isa
DoD-Maintained Data	
DoD Deskbook	http://www.deskbook.osd.mil/
Defense Acquisition University (DAU)	http://www.dau.mil/
Defense Science Board	http://www.acq.osd.mil/dsb/
DLA Knowledge Management	http://www.dla.mil/
Acquisition Reform	http://www.acq.osd.mil/ar/
SDO on-line Storage Databases	varies
JTA/Virtual JTA	http://www-jta.itsi.disa.mil/
IMS/WMS	http://www.imswms.hq.af.mil/saf/imswms/
Army International Agreements Tracking System (IATS)	TBD
DSCC Standardization Programs: - DSCC-VA Document Standardization:	http://www.dscc.dla.mil/Offices/Doc_Control/default.asp

Data Source	Web Address
DSCC-VQ Sourcing and Qualification:	http://www.dscc.dla.mil/offices/sourcing_and_qualification/default.asp
DSCC-VS Standardization Management:	http://www.dscc.dla.mil/offices/standard/Index.html
Government Industry Data Exchange Program (GIDEP)	http://www.gidep.corona.navy.mil/
Procurement Gateway	http://progate.daps.mil/home/
Market research	http://www.acq-ref.navy.mil/marketresearch
Item reduction	http://www.dscc.dla.mil/offices/item_reduction/index.html
Requirements Development (e.g., Turbo Spec Writer)	http://www.acq-ref.navy.mil/specright
Service/Agency Acquisition sites	TBD
Logistics support data bases & sites	TBD
Standardization training tools	TBD - Get from DAU/ALMC/DSMC
Early Bird	http://ebird.dtic.mil/
Parts management tools	http://www.dscc.dla.mil/offices/parts_mgmt
Commercially- and Other-Maintained Data	
AIA	http://www.aia-aerospace.org/
ASTM	http://www.astm.org/
SAE	http://www.sae.org/
IHS	http://www.ihsgroup.com/
USA Information Systems	TBD
ILI	http://www.paperchem.com/standard.html
TechStreet Info	http://www.cssinfo.com
Document Center	TBD
Technical Professional Societies	various
Academia	various
GPO Access (Commerce Business Daily and Federal Register)	http://www.gpo.gov/
Future DSP-Maintained Tools	
Document development, coordination, and maintenance tools	TBD
Weapon Systems–Standardization Impact Tool	TBD
Commonality research tools	TBD
Interoperability research tools	TBD
Materiel interoperability requirements assessment tool	TBD
C4I interoperability requirements research	TBD
Logistics readiness research tools	TBD

Data Source	Web Address
Knowledge management tools	TBD
Potential Domain-Specific Collaboration and Communication Capabilities	
Communication resources	TBD
Lessons learned and case studies	TBD
Executive and management reports and metrics	TBD
Customers profiles (macro and micro level)	TBD
Frequently Asked Questions (FAQ)	TBD
Feedback	TBD
Recognition and awards	TBD
Training	TBD
Collaboration tools	TBD
Virtual meeting capabilities	TBD
Message boards	TBD
News and notices	TBD
Storage and collaboration space	TBD
Templates and electronic forms	TBD

Table III. Sample Customer Analysis

Questions: What do customers need to know?
Group by Customer: Standardization, Program Office, Supply Support, Tech Manual, etc.
What standardization documents relate to or affect my program?
What documents, including specs and standards, tech orders, policies, etc., implement those standardization documents?
What engineers or areas within the program have responsibility for compliance?
Need ability to identify ratified International Standardization Documents.
Are there conflicts or inconsistencies among standardization documents that apply to my program? How do I identify these?
Can my standardization documents be improved?
May I participate personally in standardization document development?
How much will implementation cost?
Must my program comply with the standardization document?
What are the consequences of not implementing standardization documents?
What is the impact of implementation on program schedules?
Do standardization documents conflict with operational requirements?
How negotiable are the standardization documents?
Who is the POC with the real expertise for the agreement? (HOD vs. committee head)
Which standardization documents affect my domain?

When is the next meeting of the working committee?
Who are the members of the committee?
Is the standardization document cancelled or superseded and when?
What is the current focus of the working group?
What are the latest minutes of the working group?
When will the PA revise the implementing document?
Who is the waiver authority?
How do I obtain the standardization documents?
How will my compliance be monitored?
Can I not implement the standardization document?
How current and/or relevant is the standardization document?
Is standardization document ratified?
Who is the OPR?
What does recent policy say about standardization document use?
Are the standardization documents that affect my program a common denominator in other programs? (implemented by, affected by, etc.)
Whom do I contact to address program conflicts with the standardization documents?
How do I obtain relief from applicable standardization document requirements?
How can we reinstate implementing documents that have been cancelled (due to Mil-Spec Reform)?
How can we revise implementing documents without coordination of all the Services (limited coordination for standardization documents).
Should I use the standardization document?
What are the reservations that the U.S. (and other countries) have on the standardization document?
What other countries are using (applying to programs) the standardization documents, and are they implementing them?
Have other countries had problems with the standardization documents?
Do the standardization documents conflict with other requirements?
When do you apply the standardization documents (timing, etc.)?
How current and relevant are the implementing documents?
Is there a hierarchy of standardization documents, or are they equal?
If the implementing document is a specification, what is the availability of the products it describes?
Are there any interrelationships among standardization documents, and what are the interdependencies? (Are the references current?)
Are there any redundancies among standardization documents?
What are the linkages between standardization documents and other documents?
What is the national policy on standardization documents (HOD policy)?
How many different standardization documents have the same implementing document?

Design and funding considerations should come only after such a customer needs analysis is accomplished.